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Imitation Therapy in Young Children with Autism

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Children with autism show imitation deficits, leading to delayed communication development. This study highlights the efficacy of gestural, oral, and verbal imitation training for young children with autism. Our questions are: Will training facilitate improvement in imitation? Can children generalize imitation skills? Will children initiate imitation more frequently after treatment?

Background

Children with autism show significant deficits in imitation skills. Imitation plays a crucial role in the development of communication, making it a relatively new target of intervention.

Ingersoll, Lewis, and Kroman (2006) conducted a study in which Reciprocal Imitation Training (RIT) was implemented with young children with autism. RIT is a naturalistic imitation intervention in which the clinician imitates the sounds and actions of the child during play. The researchers found that RIT was an effective method for increasing imitative skills in children with autism, in both elicited and spontaneous contexts.

Ingersoll, Lewis, and Kroman (2006) used a play-based intervention strategy. But children with autism generally respond well to direct, behavioral approaches to intervention. We wanted to test whether a clinician-directed imitation training would be beneficial for this population.

This study used a multiple baseline design to determine the efficacy of gestural, oral, and verbal imitation training during traditional clinician-directed therapy for young children with autism.

Methods

Participants

Four children with autism participated in this study. The sample included both male and female children between the ages of 3;4-11;9. All participants came from middle-class families in the Philadelphia and surrounding areas, and were from White, Hispanic, and African American backgrounds. Participants were recruited from local schools and organizations. The children met the specific criterion for diagnosis of autism according to the DSM-IV, determined by a licensed psychologist.

During the study, all children participated in their regular treatment programs. These treatment programs included speech therapy, occupational therapy, physical therapy, and Applied Behavioral Analysis.

Procedure

In the week prior to the start of training, all children were probed with gestural, oral, and verbal prompts to determine their imitative skill baseline. Each child participated in one 30- minute session per week with the therapist, and one 30-minute session at home with a parent.

Weeks 1 and 2 of training consisted of gestural imitation only. For each gesture, the therapist told the child, "Watch me", modeled the gesture, then told the child, "Now you do it". If the child did not imitate the gesture after five seconds, the therapist helped the child imitate the action. At the end of each 30 minute session, the therapist gave the parent the list of gestures used in the training to work on at home.

Weeks 3 and 4 consisted only of oral imitation training. The therapist followed the same procedure as the gestural imitation, and provided the list of oral prompts for the session at home.

Weeks 5 and 6 trained verbal imitation only. Verbal imitation prompts were tailored to the specific child's ability level for spoken output, and ranged from single words to sentences. Again, the therapist followed the above procedure for each imitation and provided a list of prompts for the home session.

One week following the conclusion of training, the participants were probed for maintenance of all three categories of imitative skills.

Data Collection

Each week, percentages for successful imitations during training with both the therapist and the parent were calculated.

At the end of the second week, after a total of four sessions totaling two hours of training, gesture imitation was probed for maintenance of the trained imitated gestures. Probing included a set of ten gestures, and the percentage of gestures imitated by the child was calculated. These percentages were included in the data as well.

At the end of the fourth week, the participants were probed for skills in both gestural and oral imitation. Probing consisted of ten gestural and ten oral imitation tasks. Percentages were calculated for each.

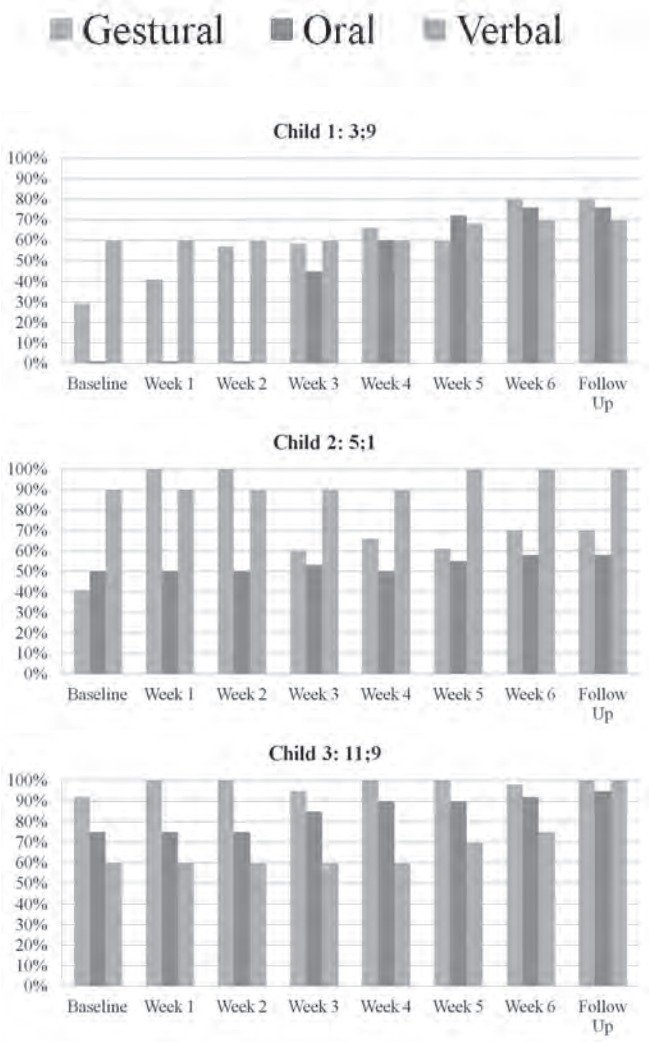
One week following the conclusion of verbal training, participants were probed for gestural, oral, and verbal imitation skills consisting of ten tasks for each category. Percentages were calculated to give an idea of each child's maintenance of progress in the training therapy.

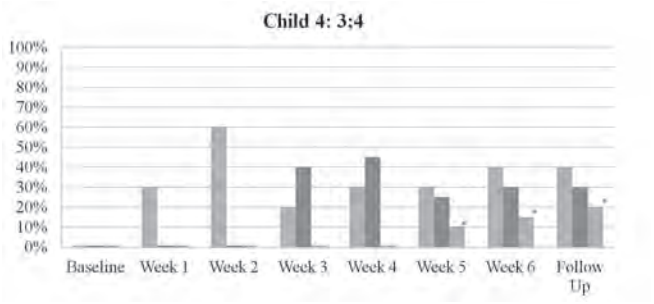
Gestures	
Shake head	Raise hand
Nod head	Hand to mouth like eating
Clap hands	Hand out, palm up
Spin around	Fold hands together like sleeping
Blow kiss	Driving car motion
Wave hi/bye	Brushing teeth motion

Oral	
Stick out tongue	Bite down on bottom lip
Press lips together	Tongue between teeth
Wag tongue	Puff up cheeks
Shape mouth into "o"	Puff out bottom lip
Smile	Frown
Purse lips	Open mouth

Verbal	
Hi	Bye
I want	More
No	Yes
Thank you	Help
Please	Bedtime
Play	More

Results





Conclusions

- This imitation intervention was successful in increasing the imitation skills of young children with autism in a short period of time.

- This approach worked best with children that had a low baseline for imitation skills. A strength of the training was that it provided opportunity for parent involvement.

- One mother stated, "As a parent of a child with autism, I have learned that certain imitation skills that 'typical' children perform without much struggle can become a difficult task for an autistic child. During the study, we found that [her son] could complete basic imitations. I think the study was very beneficial and I'm very pleased with the results. I'm going to continue to work on strengthening the imitation skills my son possesses and hope that perhaps they will come more naturally in time".

References

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